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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/650,202

08/28/2003

Chi-Mou Ni

GP-302964

7155

7590

06/29/2006

EXAMINER

BONK, TERESA

LAURA C. HARGITT

General Motors Corporation Legal Staff

P.O. Box 300

Mail Code 482-C23-B21

Detroit, MI 48265-3000

ART UNIT	PAPER NUMBER
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3725

DATE MAILED: 06/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/650,202	NI ET AL.	
	Examiner	Art Unit	
	Teresa M. Bonk	3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 1-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The added material which is not support by the original disclosure is as follows: in claim 1, “a multi-stage die.” The term “multi” is understood to mean two or more and there is only disclosure for a two-stage die.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Marando et al. (US Patent 6,016,603). Marando et al. discloses a method of progressive (“two-stage process,” Column 1, line 14) hydroforming having the following steps: including providing a metal tubular member (tube 10) with a generally circular cross-section shape (See Figure 2); bending the tubular member to a predetermined position prior to hydroforming (Column 4, lines 65-67);

positioning the tubular member between open die halves (die sections 12 and 13) mating with one another to define a first tubular cavity portion (12a and 13a) in a first stage; progressively closing the die halves to progressively deform the tubular member within the first tubular cavity portion (Column 4, lines 59-62); applying at least nominal internal hydraulic pressure to the tubular member (“filled with a pressurized fluid”, Column 2, line 50); increasing the hydraulic pressure to expand and conform the tubular member to the first tubular cavity portion in the first stage (“the pressure of the fluid is increased to a magnitude where the closed channel structural member is expanded or otherwise deformed outwardly into conformance with the die cavity,” Column 2, lines 52-55)

separating the die halves; removing the expanded tubular member from the first tubular cavity portion, (“the preliminarily expanded tube 10 disposed within the second hydroforming die 15, Column 5, lines 54-55); positioning the expanded tubular member between open halves (die sections 16 and 17) mating with one another to define a second tubular cavity portion (16a and 17a) in the second stage; progressively closing the die halves to progressively deform the expanded tubular member within the second tubular cavity portion (Column 5, lines 59-61); increasing the hydraulic pressure to expand and conform the expanded tubular member to the second tubular cavity portion in the second stage (Column 2, lines 52-55 and Column 6, lines 20-22);

expanding at least one portion of the tubular member and expanded tubular member to have a size greater than a diameter of a remainder of the tubular member (See Figure 3); expanding at least one portion of the tubular member to have a cross-sectional shape different from a cross-sectional shape of the remainder of the tubular member (See Figure 7 and column 6,

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lines 1-4); the finished tubular member is integral, unitary, and one-piece (See Figures 1 and 3, “unitize,” Column 1, line 27).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 14-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marando et al. in view of Metcalf (US Patent 1,899,288). Marando et al. discloses the invention substantially as claimed except for the cavities being in the same two-stage die. Metcalf discloses an apparatus having a die (20) with at least two cavities (die impressions 21, 22, 23) that is capable of disposing a workpiece in the first cavity, deforming it, removing it from the cavity, and then disposing it in the next cavity and repeating the process (Column 2, lines 30-35 and 73-76).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention

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was made to use Metcalf's progressive type die in Marando et al.'s die apparatus in order to simplify the working handling and subsequently increasing production time.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

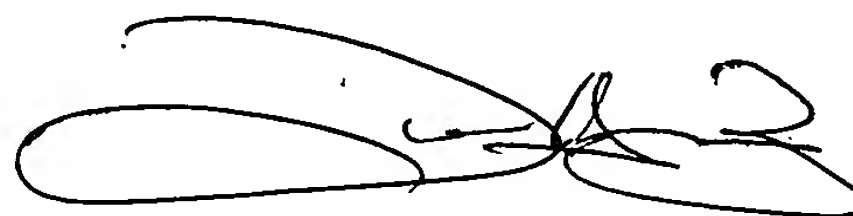
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa M. Bonk whose telephone number is (571) 272-1901. The examiner can normally be reached on M-F 7:30AM - 5PM with alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Teresa M. Bonk
Examiner
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A handwritten signature in black ink, appearing to read 'Derris H. Banks', with a large, stylized loop at the end.

DERRIS H. BANKS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700